

# *Interference Search History Printout*

## **EAST Search History**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	0	(disk and soft and magnetic and protection and grain and orientation and amorphous and underlayer and non and magnetic and perpendicular and anisotropy and carbon and reduce and size and base).clm.	US-PGPUB; USPAT	OR	ON	2007/11/08 17:04

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	240	(428/827 or 428/828 or 428/831.2 or 428/833.2 or 428/835 or 428/835.1 or 428/835.1 or 428/835.4 or 428/846.2 or 428/848.2 or 428/848.3 or 360/134 or 360/135 or 360/136 or 369/283 or 427/131). ccls. and "amorphous carbon"	US-PGPUB; USPAT	OR	OFF	2007/11/08 16:47
L2	195	L1 AND GLASS	US-PGPUB; USPAT	OR	OFF	2007/11/08 16:46
L3	103	L2 and "protective layer"	US-PGPUB; USPAT	OR	OFF	2007/11/08 16:46
L4	60	I3 and (protective with "amorphous carbon")	US-PGPUB; USPAT	OR	OFF	2007/11/08 16:47
S1	1	("2001143245").PN.	US-PGPUB; USPAT; DERWENT	OR	OFF	2006/09/05 19:55
S2	1	ikedaka and koji and ito and toshiya and "magnetic recording"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/09/01 14:48
S3	63	ikedaka and ito and "magnetic recording"	US-PGPUB; USPAT; DERWENT	OR	ON	2006/09/01 14:49
S4	108	ikedaka and ito and nippon	US-PGPUB; USPAT; DERWENT	OR	ON	2006/09/01 14:50
S5	35	S3 and glass	US-PGPUB; USPAT; DERWENT	OR	ON	2006/09/01 14:51
S6	108	S4 and nippon	US-PGPUB; USPAT; DERWENT	OR	ON	2006/09/01 14:51
S7	5	S5 and nippon	US-PGPUB; USPAT; DERWENT	OR	ON	2006/09/01 14:51
S8	2	2001-143245	US-PGPUB; USPAT; DERWENT	OR	ON	2006/09/01 15:03
S9	1	"20040146686"	US-PGPUB; USPAT	OR	OFF	2006/09/01 15:53
S10	10	"Kong Kim" or "Junichi Horikawa"	US-PGPUB; USPAT	OR	OFF	2006/09/01 15:54
S11	1566	("Kim" or "Horikawa") and "magnetic recording"	US-PGPUB; USPAT	OR	ON	2006/09/01 15:55

## EAST Search History

S12	0	S11 and (disk or disc) and perendicular	US-PGPUB; USPAT	OR	ON	2006/09/01 15:55
S13	321	S11 and (disk or disc) and perpendicular	US-PGPUB; USPAT	OR	ON	2006/09/01 15:56
S14	11	S13 and "Hoya"	US-PGPUB; USPAT	OR	ON	2006/09/01 15:56
S15	10	S14 not S10	US-PGPUB; USPAT	OR	ON	2006/09/01 15:57
S16	1	S15 and texture and anisotropy	US-PGPUB; USPAT	OR	ON	2006/09/01 15:57
S17	14	S13 and texture and anisotropy	US-PGPUB; USPAT	OR	ON	2006/09/01 16:22
S18	14	S17 not S10	US-PGPUB; USPAT	OR	ON	2006/09/01 16:02
S19	473	"soft magnetic" and ("protective layer" or "protection layer") and (disk or disc) and "perpendicular magnetic recording"	US-PGPUB; USPAT	OR	ON	2006/09/01 16:06
S20	0	S19 and (glass same substrate) and (carbon same proct\$)	US-PGPUB; USPAT	OR	ON	2006/09/05 21:30
S21	277	S19 and (glass same substrate) and (carbon same protect\$)	US-PGPUB; USPAT	OR	ON	2006/09/01 16:07
S22	255	S21 and sputter\$	US-PGPUB; USPAT	OR	ON	2006/09/01 16:08
S23	15	S22 and (glass same strengthen\$) and rough\$	US-PGPUB; USPAT	OR	ON	2006/09/01 16:22
S24	50	("6028786" "6246541" "4985735" "5281938" "5399407" "5503911" "5840420" "6111268" "4373018" "4865878" "4868070" "5187859" "5202863" "5242865" "5517472" "5648163" "5693199" "5808832" "5822159" "5822158" "5872691" "5923503" "5948550" "5992004" "6023840" "6137064" "6185068" "6870716" "4384545" "4385273" "4387136" "4476509" "4489357" "4520409" "4531205" "4621030" "4769729" "4797766" "4841402" "4871883" "4884156" "4914741" "4921729" "4939046" "5006388" "5192423" "5227597" "5232569" "5320879" "5336559" ).pn.	US-PGPUB; USPAT	OR	OFF	2006/09/01 16:23
S25	0	S24 and (glass same strengthen\$) and rough\$	US-PGPUB; USPAT	OR	ON	2006/09/01 16:22
S26	1	S24 and texture and anisotropy	US-PGPUB; USPAT	OR	ON	2006/09/01 16:22

## EAST Search History

S27	2	"6881497"	US-PGPUB; USPAT	OR	OFF	2006/09/05 13:20
S28	200317	("360"/\$ or "428"/8 or "501"/\$ or "65"/\$ or "365"/\$ or "369"/\$).ccls.	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/09/05 19:21
S29	67358	S28 and (soft magnetic)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2007/04/17 16:35
S30	43	S28 and perpendicular and (protection same (carbon or amorphous)) and (disk same glass) and anisotropy	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/09/05 13:39
S31	43	S29 and perpendicular and (protection same (carbon or amorphous)) and (disk same glass) and anisotropy	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/09/05 13:37
S32	23	S30 and soft	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/09/05 21:30
S33	81	("360"/\$ or "428"/8 or "501"/\$ or "65"/\$ or "365"/\$ or "369"/\$).ccls. and ("protection layer" same amorphous)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/09/05 19:31
S34	34	S33 and ("protection layer" with amorphous)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/09/05 19:30
S35	8	S33 and (carbon with amorphous)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/09/05 19:30
S36	163	("360"/\$ or "428"/8 or "501"/\$ or "65"/\$ or "365"/\$ or "369"/\$).ccls. and ("protection layer" same carbon)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/09/05 19:31
S37	0	("5851643andsputter\$").PN.	US-PGPUB; USPAT; DERWENT	OR	OFF	2006/09/05 19:55
S38	44	"5851643" and sputter\$	USPAT	OR	OFF	2006/09/05 20:00
S39	6	"5723198" and sputter\$	USPAT	OR	OFF	2006/09/05 20:06
S40	4	"6511761" and sputter\$	USPAT	OR	OFF	2006/09/05 21:24

## EAST Search History

S41	4229	(428/827 or 428/831.2 or 428/835 or 428/835.1 or 428/835.1 or 428/835.4 or 428/848.2 or 428/848.3 or 360/134 or 360/135 or 360/136 or 369/283 or 427/131). ccls.	US-PGPUB; USPAT	OR	OFF	2007/04/17 16:12
S42	763	S41 and soft	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/09/05 21:30
S43	0	S41 and (glass same substrate) and (carbon same proct\$)	US-PGPUB; USPAT	OR	ON	2006/09/05 21:30
S44	125	S41 and "hydrogenated carbon"	US-PGPUB; USPAT	OR	OFF	2006/09/05 22:02
S45	61	(204/192.15 or 204/192.2).ccls. and "hydrogenated carbon"	US-PGPUB; USPAT	OR	OFF	2007/04/17 16:11
S46	0	G11B5/\$1	EPO	OR	OFF	2006/09/06 12:06
S47	0	G11B5/\$	EPO	OR	OFF	2006/09/06 12:06
S48	0	G11B5/\$.fipc.	EPO	OR	OFF	2006/09/06 12:06
S49	0	G11B5/\$.ipc.	EPO	OR	OFF	2006/09/06 12:06
S50	4	"5723198" and perpendicular	USPAT	OR	OFF	2006/09/06 14:05
S51	3	"5723198" and soft	USPAT	OR	OFF	2006/09/06 14:58
S52	1	"20040050480"	US-PGPUB; USPAT	OR	OFF	2006/09/06 14:58
S53	5484	(428/8\$ or "360"/\$).ccls. and (protective same ((surface with soft magnetic) or (top with soft magnetic) or (over with soft magnetic) or (on with soft magnetic))))	US-PGPUB; USPAT	OR	OFF	2007/04/13 09:36
S54	5483	(428/8\$ or "360"/\$).ccls. and (protective same ((surface with soft magnetic) or (over with soft magnetic) or (on with soft magnetic))))	US-PGPUB; USPAT	OR	OFF	2007/04/13 09:38
S55	192	(428/8\$ or "360"/\$).ccls. and (protective same ((surface with "soft magnetic") or (over with "soft magnetic") or (on with "soft magnetic") or (top with "soft magnetic"))))	US-PGPUB; USPAT	OR	ON	2007/04/13 11:50
S56	192	(428/8\$ or "360"/\$).ccls. and (protective same ((surface with "soft magnetic") or (over with "soft magnetic") or (on with "soft magnetic") or (top with "soft magnetic"))))	US-PGPUB; USPAT	OR	ON	2007/04/13 10:56

## EAST Search History

S57	1	"7198875"	US-PGPUB; USPAT	OR	ON	2007/04/13 11:06
S58	1	"20070062965"	US-PGPUB; USPAT	OR	ON	2007/04/13 11:09
S59	1	"20070065685"	US-PGPUB; USPAT	OR	ON	2007/04/13 11:09
S60	1	"20070065067"	US-PGPUB; USPAT	OR	ON	2007/04/13 11:13
S61	0	"200201033333"	US-PGPUB; USPAT	OR	ON	2007/04/13 11:13
S62	0	"200201033333"	US-PGPUB; USPAT	OR	ON	2007/04/13 11:13
S63	1	"20020103333"	US-PGPUB; USPAT	OR	ON	2007/04/13 11:13
S64	158	(S55 or S56) and (disc or disk)	US-PGPUB; USPAT	OR	ON	2007/04/13 12:31
S65	1	"20060246324"	US-PGPUB; USPAT	OR	ON	2007/04/13 11:54
S66	1	"20060246324"	US-PGPUB; USPAT	OR	ON	2007/04/13 12:32
S67	2	"20040146686"	US-PGPUB; USPAT	OR	ON	2007/04/13 12:33
S68	2	"6579634" and perpendicular	US-PGPUB; USPAT	OR	OFF	2007/04/16 11:45
S69	2	"silicon oxide" and QMD	US-PGPUB; USPAT	OR	OFF	2007/04/16 11:48
S70	3	chou and QMD	US-PGPUB; USPAT	OR	OFF	2007/04/16 11:54
S71	2	("6420058", "5643686").pn.	US-PGPUB; USPAT	OR	OFF	2007/04/16 11:58
S72	1378	Saito and akira	US-PGPUB; USPAT	OR	OFF	2007/04/16 11:58
S73	471	S72 and protect\$	US-PGPUB; USPAT	OR	OFF	2007/04/16 11:59
S74	27	S73 and "magnetic recording medium"	US-PGPUB; USPAT	OR	OFF	2007/04/16 12:00
S75	13	S74 and soft	US-PGPUB; USPAT	OR	OFF	2007/04/16 12:18
S76	2	"20040146686"	US-PGPUB; USPAT	OR	OFF	2007/04/16 12:58
S77	1	"6403203".pn.	US-PGPUB; USPAT	OR	OFF	2007/04/16 15:09
S78	75	((texture or texturing) with anisotropy) and "soft magnetic"	US-PGPUB; USPAT	OR	OFF	2007/04/16 15:10

## EAST Search History

S79	64	S78 and perpendicular	US-PGPUB; USPAT	OR	OFF	2007/04/16 15:10
S80	8	S79 and ((texture or texturing) with ("soft magnetic"))	US-PGPUB; USPAT	OR	OFF	2007/04/16 15:32
S81	3	("6511761", "5851643", "5723198").pn.	US-PGPUB; USPAT	OR	OFF	2007/04/16 18:21
S82	3	S81 and (texture or texturing)	US-PGPUB; USPAT	OR	OFF	2007/04/16 17:33
S83	0	("6579634", "20030099867", "6403203").pn. and (texture or texturing)	US-PGPUB; USPAT	OR	OFF	2007/04/16 17:34
S84	3	("6579634", "20030099867", "6403203").pn. and (anisotropy)	US-PGPUB; USPAT	OR	OFF	2007/04/16 17:34
S85	1	("6511761").pn.	US-PGPUB; USPAT	OR	OFF	2007/04/16 18:39
S86	1412833	("6511761", "5851643").pn. protect\$	US-PGPUB; USPAT	OR	OFF	2007/04/16 18:43
S87	2	("6511761", "5851643").pn. and protect\$	US-PGPUB; USPAT	OR	OFF	2007/04/16 18:43
S88	121	(204/192.15 or 204/192.2).ccls. and "amorphous carbon"	US-PGPUB; USPAT	OR	OFF	2007/10/18 17:21
S89	122	(204/192.15 or 204/192.2).ccls. and "amorphous carbon"	US-PGPUB; USPAT	OR	ON	2007/04/17 16:12
S90	193	(428/827 or 428/831.2 or 428/835 or 428/835.1 or 428/835.1 or 428/835.4 or 428/848.2 or 428/848. 3 or 360/134 or 360/135 or 360/136 or 369/283 or 427/131). ccls. and "amorphous carbon"	US-PGPUB; USPAT	OR	OFF	2007/10/18 17:22
S91	127	(S88 or S90) and "protective layer"	US-PGPUB; USPAT	OR	OFF	2007/10/18 17:19
S92	153	(428/840.1 OR 428/845.5).CCLS. and (soft magnetic)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2007/04/17 16:35
S93	143	S92 AND CARBON	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2007/04/17 16:35
S94	24	S93 AND (protective same CARBON)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2007/04/17 16:36
S95	4	("20040146686", "6579634", 6403203", "20030099867", "5851643", "6511761").pn.	US-PGPUB; USPAT	OR	ON	2007/10/18 14:36

## EAST Search History

S96	4	("20040146686", "6579634, 6403203", "20030099867", "5851643", "6511761").pn.	US-PGPUB; USPAT	OR	OFF	2007/10/18 14:46
S97	3	("6579634", "6403203", "20030099867").pn.	US-PGPUB; USPAT	OR	OFF	2007/10/18 14:37
S98	1	("6579634").pn.	US-PGPUB; USPAT	OR	OFF	2007/10/18 14:46
S99	15	428/846.2	US-PGPUB; USPAT	OR	ON	2007/10/18 16:52
S10 0	0	(disk and soft and magnetic and protection and grain and orientation and amorphous and underlayer and non and magnetic and perpendicular and anisotropy and carbon and reduce and size and base).clm.	US-PGPUB; USPAT	OR	ON	2007/10/18 16:52
S10 1	240	(428/827 or 428/828 or 428/831.2 or 428/833.2 or 428/835 or 428/835.1 or 428/835.1 or 428/835.4 or 428/846.2 or 428/848.2 or 428/848.3 or 360/134 or 360/135 or 360/136 or 369/283 or 427/131). ccls. and "amorphous carbon"	US-PGPUB; USPAT	OR	OFF	2007/10/18 17:19
S10 2	195	S101 AND GLASS	US-PGPUB; USPAT	OR	OFF	2007/10/18 17:19
S10 3	103	S102 and "protective layer"	US-PGPUB; USPAT	OR	OFF	2007/11/08 16:46
S10 4	128	(204/192.15 or 204/192.2).ccls. and "amorphous carbon"	US-PGPUB; USPAT	OR	OFF	2007/10/18 17:21
S10 5	209	(428/827 or 428/831.2 or 428/835 or 428/835.1 or 428/835.1 or 428/835.4 or 428/848.2 or 428/848.3 or 360/134 or 360/135 or 360/136 or 369/283 or 427/131). ccls. and "amorphous carbon"	US-PGPUB; USPAT	OR	OFF	2007/10/18 17:22
S10 6	554	("428"/\$ or "360"/\$).ccls. and ("magnetic recording") and (underlayer same carbon)	USPAT	OR	ON	2007/11/02 15:06
S10 7	584	("428"/\$ or "360"/\$).ccls. and ("magnetic recording") and (underlayer with carbon)	US-PGPUB; USPAT	OR	ON	2007/11/02 15:13
S10 8	2	"20040146686"	US-PGPUB; USPAT	OR	ON	2007/11/02 15:16
S10 9	8	"5723032"	US-PGPUB; USPAT	OR	ON	2007/11/02 15:16